

FOR THE
IB DIPLOMA

Business Management

Study and Revision Guide

Paul Hoang

ANSWERS

Answers to Exam practice questions

Unit 1 Business organization and environment

1 a Stakeholders could include:

- Employees (25 000 job losses)
- Turkish and Brazilian governments
- Shareholders
- Directors (of HSBC)

Award 1 mark for each appropriate stakeholder identified, up to the maximum of 2 marks.

b Conflicts following HSBC's decision to reduce its global workforce could include:

- Employees and labour unions protesting against mass job losses whilst HSBC directors strive to cut costs (\$4.5 to \$5 billion per year).
- Shareholders experiencing a decline in the return on their investment in HSBC (largely due to the compensation for employees made redundant).

Award up to 2 marks for each stakeholder conflict identified and explained, up to the maximum of 4 marks.

- 2
- At £1 = \$1.6, the customers pay $£120\,000 \times \$1.6 = \$192\,000$
 - At £1 = \$1.8, the customers pay $£120\,000 \times \$1.8 = \$216\,000$
 - Hence, customers in the USA have to pay an extra \$24 000 for each car

3 a **Internal economies of scale** are generated and enjoyed within the organization when it operates on a larger scale. By contrast, **external economies of scale** occur within the industry, thus benefit all firms.

Award 1 mark for an answer that shows some understanding of internal or external economies of scale.

Award 2 marks for an answer that shows some understanding of internal and external economies of scale.

Award 3 marks for clear definitions of internal and external economies of scale that show a clear distinction between the two terms.

b $[(\$1.50 \times 4000) + \$4800] \div 4000 = \$2.70$

Award 1 mark for the correct answer and 1 mark for showing the working out accurately.

c Profit = $[(\$4 - \$1.5) \times 4000] - \$4800 = \5200

Award 1 mark for the correct answer and 1 mark for showing the working out accurately.

4 a A merger is a form of external growth that involves two or more firms agreeing to integrate as a single organization, such as Kraft Foods agreeing with Heinz to become a combined company.

Award 1 mark for a definition that shows some understanding of the term merger.

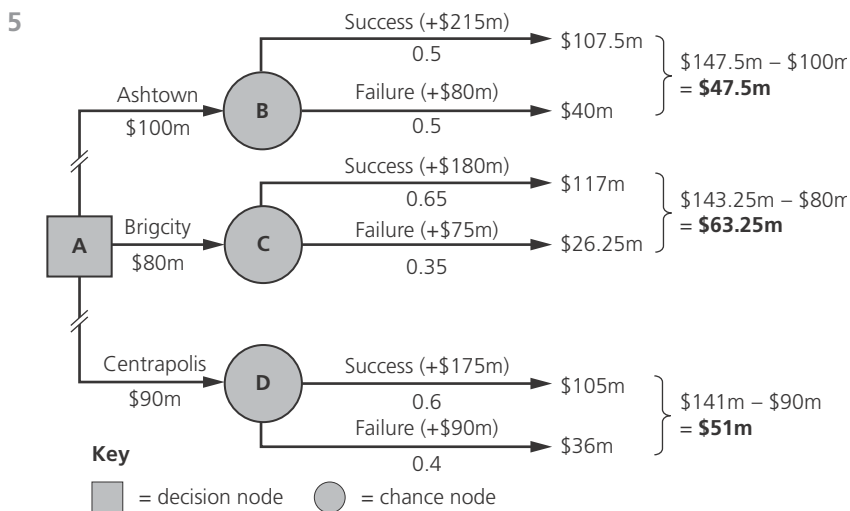
Award 2 marks for a clear and succinct definition of the term merger.

- b Possible reasons for the merger between the two companies include:
- Opportunity for synergies from the complementary nature of the brand portfolios from Heinz and Kraft.
 - Substantial opportunities to exploit economies of scale of a global scale.
 - Enables the new organization to spread its costs, expertise and risks.
 - It is a quick way for both firms to enter new industries and geographic markets.
 - The merger presents a quicker way of growth than organic growth methods.
 - By becoming the fifth largest firm in its industry, the newly formed organization gains market power to influence prices and output in the industry.
 - Opportunities for increased investments in marketing and innovation.

Award 1–2 marks for an answer that shows a limited understanding.

Award 3–4 marks for an answer that shows some understanding of the possible reasons for the merger between the two companies. Application may be missing.

Award 5–6 marks for a detailed answer that shows a good level of understanding of the possible reasons for the merger between Kraft and Heinz. There is clear evidence of application.



Decision tree for Kingmans Educational Resources

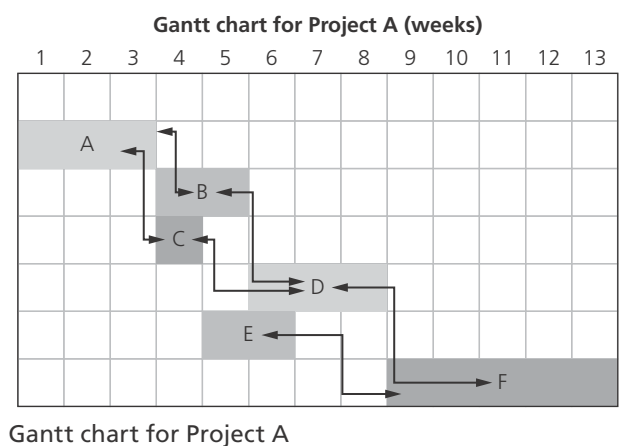
Award 1–3 marks for a decision tree with some attempt at the calculation of the expected outcomes, although these may be incomplete or inaccurate.

Award 4–5 marks for a complete decision tree although there are one or two minor errors and/or it does not include an appropriate key. For 5 marks, the answer clearly shows Brigcity as the best option on financial grounds.

Award 6 marks for a fully labelled, complete and accurate decision tree with the working out shown and an appropriate key. The answer must clearly show Brigcity as the best option on financial grounds.

- 6 Award 1–2 marks for a Gantt chart that shows some understanding in scheduling, although there are two or more errors.

Award 3–4 marks for a Gantt chart that shows a good level of understanding of scheduling, including the correct unit of measurement (number of weeks to complete the project). Award full marks if there are no significant errors.



Unit 2 Human resource management

1 Labour turnover rate = $\frac{13}{86} \times 100 = 8\%$

Award 1 mark for the correct answer and 1 mark for the correct working out.

2 a Advantages could include:

- Motivational effects as employees feel valued by their employers.
- Can help to give organizations such as Vodafone and Virgin an improved corporate image and possibly competitive advantages.

Disadvantages could include:

- Conflict and discontent at Virgin Group on the grounds of discrimination and unfair employment practices as only employees with 4 four or more years of experience at Virgin Management qualify for extended parental leave on full pay.
- Costly as the organization pays staff on maternity and paternity leave more than the stipulated minimum period.
- Pressures on the firm's resources as the work of those on maternity/paternity leave needs to be covered by others in the organization.

Award up to 2 marks for identifying and explaining an advantage of providing fringe benefits beyond what is stipulated in employment laws.

Award up to 2 further marks for identifying and explaining a disadvantage of providing fringe benefits beyond what is stipulated in employment laws.

b There are a number of theories candidates can use; an example is provided below for Herzberg.

Negative effects (leading to dissatisfaction) in the workplace include:

- Status – only staff at Virgin's investment and brand licensing division qualify for the new benefits of parental leave.
- Salary – As a hygiene factor, salaries do not change with the introduction of these new employment benefits.
- Company policy and administration become rather more bureaucratic as Virgin's new benefits do not apply to its entire workforce. Vodafone's approach still requires bureaucracy due to its global policy of introducing common maternity benefits.

Positive effects (leading to satisfaction) in the workplace do not really exist in this case as the parental benefits do not directly impact on the job itself. These factors include: growth, achievement, work itself and responsibility. However, females are able to enjoy advancement in their careers as they are given more time to raise their children, so do not need to resign from their job roles. The changes might also represent greater recognition (a motivating factor in Herzberg's theory) of workers who are expecting a baby.

Award 1 to 2 marks for a limited and general response.

Award 3 to 4 marks for some examination of the likely effects on employee motivation though there may be limited reference to any theory of motivation. The answer may be one-sided.

Award 5 to 6 marks for a detailed examination of sources of the likely effects on employee motivation as suggested in a theory of motivation, with appropriate application of the stimulus material.

3 $0.25\% \text{ of } \$3.4\text{m} = \8500

Total pay = $\$2500 + \$8500 = \$11\,000$

Award 1 mark for correct answer and 1 mark for correct working out.

Unit 3 Finance and accounts

- 1 a $TFC = 4545 - 2000 = \$2545$
 b $AFC @ 10 \text{ units} = 2545 \div 10 = \254.50
 $AFC @ 15 \text{ units} = 2545 \div 15 = \169.67
 c $AVC @ 10 \text{ units} = 2000 \div 10 = \200.0
 $AVC @ 15 \text{ units} = 2850 \div 15 = \190.0
 d $AC @ 10 \text{ units} = 4545 \div 10 = \454.50
 $AC @ 15 \text{ units} = 5395 \div 15 = \359.67

Award 1 mark for the correct answer and 1 mark for the correct working out.
 For each remaining answer, award 1 mark for each correct answer.

2

	October	November	December	January
Sales revenue	5800	6000	8800	4300
Variable costs	3480	3600	5280	2580
Fixed costs	1500	1500	1500	1500
Total costs	4980	5100	6780	4080
Profit	820	900	2020	220

Award 1 mark for each correct column (month), up to the maximum of 4 marks.

- 3 a $TVC = \$8 \times 5000 = \$40\,000$
 $TFC = \$7000 + \$8000 = \$15\,000$
 Hence, $TC = \$55\,000$
 b $TR = \$20 \times 5000 = \$100\,000$
 As profit = $TR - TC$, $\$100\,000 - \$55\,000 = \$45\,000$
 4 a The formula for contribution per unit is selling price minus variable cost per unit ($P - AVC$). Since $P = \$1.50$ and $AVC = \$0.25$, the contribution per unit is **\$1.25**.

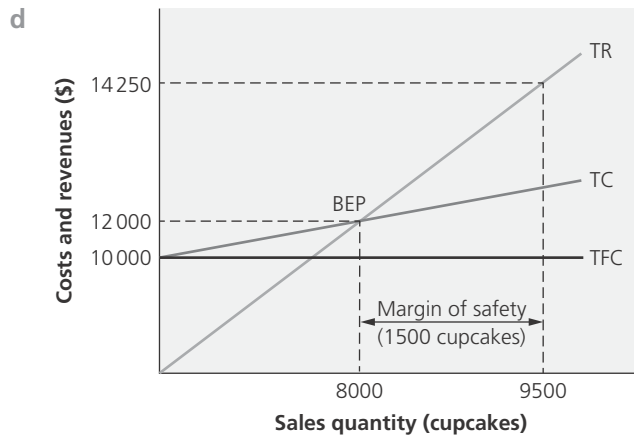
Award 1 mark for the correct working out and 1 further mark for the correct answer with the correct unit of measurement (\$).

- b The formula for break-even is fixed costs divided by unit contribution, i.e. $TFC \div (P - AVC)$. Hence, $BEQ = \$10\,000 \div \$1.25 = \mathbf{8000 \text{ cupcakes}}$ per month.

Award 1 mark for the correct working out and 1 further mark for the correct answer with the correct unit of measurement (cupcakes).

- c The margin of safety is calculated by finding the difference between actual sales and the BEQ, i.e. the MOS is $9500 - 8000 = \mathbf{1500 \text{ cupcakes}}$

Award 1 mark for the correct working out and 1 further mark for the correct answer with the correct unit of measurement (cupcakes).



Break-even chart for BHS Cupcakes

Award 1 mark for each of the following, up to the maximum of 5 marks:

- Correctly plotting and labelling the total sales revenue (TR) line
- Correctly plotting and labelling the total cost (TC) line
- Clearly identifying the break-even output at 8000 cupcakes
- Clearly identifying the margin of safety of 1500 cupcakes
- Correctly labelling the axes.

5 ■ Target profit = Total contribution – Total fixed costs

■ $\$35\,000 = \text{Total contribution} - \$10\,000$

■ Total contribution = **$\$45\,000$**

Award 1 mark for the correct working out and 1 further mark for the correct answer.

6 Target profit = Total contribution – Total fixed costs

■ $200\,000 = 500Q - 50\,000$

■ $250\,000 = 500Q$

■ $Q = 500$ units

Hence, to earn \$200 000 profit, Li & Tse Jewellers will need to sell 500 units of its products.

Check:

■ If sales volume = 500, then

□ Total contribution = $\$500 \times 500 = \$250\,000$

□ Total fixed costs = $\$50\,000$

□ Hence, target profit = $\$200\,000$

Award 1 mark for the correct working out and 1 further mark for the correct answer.

7 ■ $(P - 120)60 - 3500 = 2500$

■ $60P - 7200 - 3500 = 2500$

■ $60P = 13\,200$

■ $P = 220$

Hence target price = \$220 per watch.

Award 1 mark for the correct working out and 1 further mark for the correct answer.

8 a $BEQ = TFC \div (P - AVC)$.

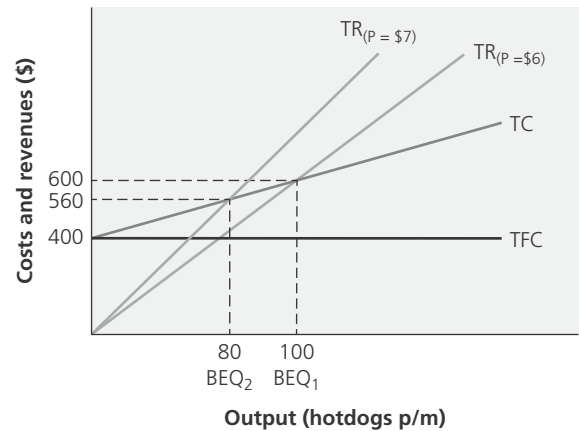
Therefore, $\$12\,000 \div (\$500 - \$420) = 150$ people.

b Target profit output = $(\text{Fixed costs} + \text{Target profit}) \div \text{Contribution per unit}$.

Hence, $(\$12\,000 + \$20\,000) \div \$80 = 400$ customers.

9 a Award 1 mark each for the following, up to the maximum of 6 marks:

- Accurately drawn and labelled TR curve when price is \$6
- Accurately drawn and labelled TR curve when price increases to \$7
- Correctly identifying the original break-even quantity at 100 hot dogs p/m
- Correctly identifying the new break-even quantity at 80 hot dogs p/m
- Correct labelling of y-axis, i.e. costs and revenues (\$)
- Correct labelling of x-axis, i.e. 'Sales of hot dogs (unit per month)' or similar. Do not accept generic labels such as 'Output' or 'Quantity'.



Break-even chart for Alyssa Stephen's Hot Dog Stall following an increase in price

b The new margin of safety = $280 - 80 = 200$ hotdogs per week.

Award 1 mark for the correct working out and 1 further mark for the correct answer.

10 $COGS = \text{Opening stock} + \text{Purchases} - \text{Closing stock}$

$\$45\,000 + \$65\,000 - \$35\,000 = \$75\,000$

Award 1 mark for the correct answer and 1 mark for showing the working out accurately.

11 P&L account for Axner Insurance Company for year ending March 2016

	\$
Sales turnover	700 000
Cost of goods sold	430 000
Gross profit	270 000
Expenses	80 000
Net profit	190 000
Interest and tax	55 000
Net profit after interest and tax	135 000
Dividends	65 000
Retained profit	70 000

Award 1–2 marks for an answer that shows some understanding of the structure of the P&L account. There are 3 or more errors. Apply the own figure rule where appropriate.

Award 3–4 marks for an accurate answer that shows a good understanding of the format of the P&L account. For 3 marks, allow up to 1 error. A title is needed for full marks.

12 Balance sheet for Lietz Watch Company as at 31 March 2016

	\$
Fixed assets	450 000
Net current assets	150 000
Long-term liabilities	200 000
Net assets	400 000
Share capital	300 000
Retained profits	100 000
Equity	400 000

Award 1–2 marks for an answer that shows some understanding of the structure of the balance sheet. There are 3 or more errors.

Award 3–4 marks for an accurate answer that shows a good understanding of the format of the balance sheet. For 3 marks, allow up to 1 error. A title is needed for full marks.

13 Annual depreciation = $\frac{(\$120\,000 - \$20\,000)}{4 \text{ years}} = \$25\,000$ per year

Award 1 mark for the correct answer and 1 mark for showing the working out accurately.

14 Residual value of the asset after five years

Year	Depreciation (\$)	Book value (\$)
0		100 000
1	30 000	70 000
2	21 000	49 000
3	14 700	34 300
4	10 290	24 010
5	7 203	16 807

Hence, the scrap value of the printing machine at the end of year 5 is \$16 807.

Award 1 mark for limited understanding or for showing the correct answer without any working out.

Award 2 marks for the correct answer with incomplete working out shown.

Award 3 marks for the correct answer with accurate working out shown.

15 Straight line method:

Year end	Deprecation (\$)	Book value (\$)
0	0	20 000
1	3 400	16 600
2	3 400	13 200
3	3 400	9 800
4	3 400	6 400
5	3 400	3 000

Declining balance method @ 25% p.a.:

Year end	Depreciation (\$)	Book value (\$)
0	0	20 000
1	5 000	15 000
2	3 750	11 250
3	2 813	8 437
4	2 109	6 328
5	1 582	4 746

Hence, the reducing balance method results in a higher residual value of the machinery. It does, however, depreciate the asset by a greater amount in the earlier years, e.g. \$5 000 in the first year compared to \$3 400 if the straight line method is used.

Award up 2 marks for the correct calculation of the straight line method.

Award up 2 marks for the correct calculation of the declining balance method.

Award up 2 marks for the commentary, with reference to the calculations.

16 $GPM = \$3.5 \text{ m} \div \$5.5 \text{ m} = 63.63\%$

$NPM = (\$3.5 \text{ m} - \$1.5 \text{ m}) \div \$5.5 \text{ m} = 36.36\%$

For each ratio, award 1 mark for the correct answer and 1 mark for showing the correct working out.

17 $ROCE = (\$100 \text{ m} - \$10 \text{ m}) \div \$300 \text{ m} = 30\%$

Award 1 mark for the correct answer and 1 mark for showing the correct working out.

18 ■ $\text{Current assets} = \$150\,000 + \$65\,000 + \$145\,000 = \$360\,000$

■ $\text{Current liabilities} = \$55\,000 + \$80\,000 + \$25\,000 = \$160\,000$

■ $\text{Current ratio} = \frac{\$360\,000}{\$160\,000} = 2.25:1$

Award 1 mark for the working out of current assets, 1 mark for the working out of current liabilities and 1 mark for the correct answer.

19 ■ $\text{Average stock} = (\text{Opening stock} + \text{Closing stock}) \div 2 = \frac{(\$250\,000 + \$50\,000)}{2}$

■ $\text{Stock turnover} = \$525\,000 \div \$150\,000 = 3.5 \text{ times}$

■ $\text{Alternatively, stock turnover} = \frac{(\$150\,000)}{(\$525\,000)} \times 365 = 104.28 \text{ days, i.e. } 105 \text{ days}$

It takes 105 days to sell the stock (inventory). On the 104th day, there is still some stock left.

Award 1 mark for the correct working out and 1 mark for the correct answer.

Accept either method of calculating the inventory turnover ratio.

20 ■ $\text{Sales revenue} = \$15 \times 100\,000 = \$1\,500\,000$

■ $\text{Average debt collection period} = \$300\,000 \div \$1\,500\,000 \times 365 = 73 \text{ days}$

21 ■ $\text{Creditor days ratio} = (\$24\,900 \div \$202\,000) \times 365 = 45 \text{ days}$

Award 1 mark for the correct answer and 1 mark for showing the correct working out.

22 ■ $\text{Capital employed} = \$10 \text{ m} + \$15 \text{ m} + \$5 \text{ m} = \$30 \text{ million}$

■ Hence, the gearing ratio = $\$10 \text{ m} \div \$30 \text{ m} = 33.33\%$

Award 1 mark for the correct calculation of the firm's capital employed

Award 1 mark for the correct gearing ratio, and 1 mark for the correct working out of the ratio. Apply the own figure rule where appropriate.

- 23 ■** Ho Bakery's gearing ratio = $(\$80\,000 + \$35\,000) \div \$250\,000 = 46\%$
- Chang Bakery's gearing ratio = $(\$90\,000 + \$27\,000) \div \$260\,000 = 45\%$
 - Therefore, Ho Bakery Ltd has slightly higher debt financing costs and is more vulnerable to changes in interest rates or a downturn in the economy.

*Award up to 2 marks for correctly calculating the gearing ratios for both firms.
Award up to 2 further marks for the commentary, which shows an understanding of what the gearing ratios mean for potential investors.*

- 24 ■** Net cash flow = $\$120\,000 - \$80\,000 = \$40\,000$
- Closing balance = $\$70\,000 + \$40\,000 = \$110\,000$

Award 1 mark for the correct answer (\$110 000) and 1 mark for the working out.

- 25 ■** Closing balance = $\$150\,000 + \$17\,000 - \$13\,000 = \$154\,000$

Award 1 mark for the correct answer and 1 mark for the working out.

- 26 a** Net cash flow = Cash inflow – Cash outflow
 $\$195\,000 - \$150\,000 = \$45\,000$

Award 1 mark for the correct answer and 1 mark for the working out.

- b** Closing balance = Opening balance + Net cash flow
 $\$45\,000 + \$35\,500 = \$80\,500$

Award 1 mark for the correct answer and 1 mark for the working out.

- 27 a** The three-month cash flow forecast for Axner & Co.:

	July (\$)	August (\$)	September (\$)
Sales revenue	1500	1600	1900
Bank overdraft	0	100	0
Cash inflow	1500	1700	1900
Materials	350	400	450
Wages	200	200	320
Rent	900	900	900
Utility bills	100	150	200
Cash outflow	1550	1650	1870
Net cash flow	–50	50	30
Opening balance	0	–50	0
Closing balance	–50	0	30

Award 1–2 marks for an answer that shows some understanding although there are 3 or more errors. Apply the own figure rule (error carried forward) as appropriate.

Award 3–4 marks for an answer that shows good understanding. For 3 marks, allow up to 1 error, but apply the own figure rule as appropriate.

- b** Possible causes of cash flow problems might include:
- Sales being lower than expected
 - Costs being higher than budgeted
 - Unexpected costs
 - A significant number of customers buying on credit
 - Poor credit control
 - Poor stock control, e.g. overstocking of items that do not sell well

Award 1 mark for each plausible cause of cash flow problems, and 1 further mark for the explanation, up to the total of 4 marks.

c Possible ways to resolve cash flow problems might include:

- Improving its marketing to boost sales revenue
- Using a bank overdraft to deal with a cash shortage, e.g. the \$100 overdraft in August seems to rectify the issue of a negative closing balance in July
- Negotiating improved trade credit terms with its suppliers
- Lease rather than buy capital equipment
- Improved credit control

Award 1 mark for each plausible cause of cash flow problems, and 1 further mark for the explanation, up to the total of 4 marks.

28 The formula for payback period is:

$$\text{Payback period} = \frac{\text{Cost of the investment}}{\text{Annual net cash flow}}$$

- Hence, $\text{€}1\,155\,000 \div \text{€}330\,000 = 3.5$ years
- So, the PBP = 3 years and 6 months.

Award 1 mark for the correct answer and 1 mark for showing the working out accurately.

29 a The payback period is an investment appraisal method that estimates how fast the initial cost of an investment project can be recovered.

Award 1 mark for a definition that shows a limited understanding of the payback period.

Award 2 marks for a definition that shows a clear understanding of the payback period.

b To calculate the PBP, the cumulative net cash flows need to be worked out:

Year	Net cash flow	Cumulative net cash inflow
1	\$30 000	\$30 000
2	\$40 000	\$70 000
3	\$60 000	\$130 000
4	\$70 000	\$200 000
5	\$60 000	\$260 000

- The PBP occurs between Years 4 and 5.
- By the end of the fourth year, there is a shortfall of \$20 000 in order to recover the investment costs of \$220 000.
- In Year 5, the net cash flow is \$60 000, i.e. \$5000 per month.
- Hence, the required amount is recouped in 4 months ($\$20\,000 \div \$5000 = 4$ months).
- Therefore, the PBP = 4 years and 4 months.

As the payback period is longer than desired by the management, the investment should not be made. If it takes 4 years and 4 months to reach payback, the firm will only earn profits for 8 months during the five-year project, so this is a highly risky investment.

Award up to 2 marks for the correct calculation of the PBP, including accurate working out.

Award up to 2 further marks for the commentary about the decision (not to invest, given the high risks). There should be application of the data/calculations to earn maximum marks.

30 a The formula for calculating the ARR is:

$$\text{Profit} = (150\,000 - 60\,000) \times 12 - 460\,000 = 620\,000$$

$$\blacksquare \text{ Average annual profit} = \frac{620\,000}{12} = \$51\,667$$

$$\blacksquare \text{ ARR} = \$51\,667 \div \$460\,000 = 11.23\%$$

Award 1 mark for the correct answer and 1 mark for showing the working out accurately.

- b** According to the ARR method of investment appraisal, Chandelier World should not go ahead and purchase the new precision-cutting machinery because the estimated annual return averages at 11.23% which is lower than the management's desired rate of return of 15%.

Award 1 mark for an answer that shows limited understanding.

Award 2 marks for an answer that shows why the management is likely to go ahead with the investment based on the ARR calculation.

For full marks, there should be appropriate use of the calculation.

31

Year	Total contribution
1	\$30 000
2	\$40 000
3	\$50 000
4	\$40 000
5	\$30 000
Total	\$190 000

$$\blacksquare \text{ The total profit from the project is } \$190\,000 - \$155\,000 = \$35\,000$$

$$\blacksquare \text{ The average annual profit} = \$35\,000 \div 5 \text{ years} = \$7\,000$$

$$\blacksquare \text{ Hence, the ARR} = \$7\,000 \div \$155\,000 = 4.52\%$$

- \blacksquare Whether Villano Watch Company chooses to go for this investment depends on the interest rate compared to the expected ARR of 4.52%. It would also depend on whether Villano Watch Company had other projects in mind that might yield more than 4.52% annual return.

Award up to 2 marks for the correct calculation of the ARR, with the working out fully shown.

Award up to 2 further marks for the commentary.

For full marks, there should be consideration of the calculated ARR figure.

32

Year	Net cash flow	Cumulative cash flow
1	\$15 000	\$15 000
2	\$20 000	\$35 000
3	\$30 000	\$65 000
4	\$20 000	\$85 000
5	\$20 000	\$105 000

- a The PBP = 3 years

Award 1 mark for the correct answer and 1 mark for the working out.

Note: there is no need to show the answers in a table – it is shown above for illustrative purposes only.

Year	Net cash flow
1	\$15 000
2	\$20 000
3	\$30 000
4	\$20 000
5	\$20 000
Total	\$105 000

- b ■ The profit from the investment project = \$105 000 – \$65 000 = \$40 000
 ■ The average annual profit = \$40 000 ÷ 5 years = \$8 000
 ■ The ARR = \$8 000 ÷ \$65 000 = 12.3%

Award 1 mark for the correct answer and 1 mark for showing the correct working out.

- c Discounting is used to calculate the future value of cash flows. It reduces the value of the money a firm receives in the future. As money loses its value over time, discounting is applied to give money a current (present-day) value for the expected future returns.

Award 1 mark for a limited understanding of why discounted net cash flows are used.

Award 2 marks for an answer that shows a good understanding of why firms use discounted net cash flows. A numerical example may be presented, but is not required for full marks.

Year	Net cash flow	Discount rate	Present value
1	\$15 000	0.9615	\$14 422.50
2	\$20 000	0.9246	\$18 492.00
3	\$30 000	0.889	\$26 670.00
4	\$20 000	0.8548	\$17 096.00
5	\$20 000	0.8219	\$16 438.00
Total			\$93 118.50

- d The NPV = \$93 118.50 – \$65 000 = \$28 118.50

Award 1 mark for an answer that shows a limited understanding of net present values.

Award 2 marks for an answer with up to 1 mistake to the calculation. Full working out is expected. Apply the own figure rule (error carried forward) as appropriate.

Award 3 marks for a neatly presented answer that shows the correct working out to calculate the NPV = \$28 118.50.

- e Arguments for the purchase of the industrial massage chairs include:
- The payback period is three years, so the project will earn the business profit for the remaining/final two years.
 - The business earns profits averaging \$8 000 per year, or an ARR of 12.3% (more than three times the discount rate of 4%).
 - The project yields a positive net present value of \$28 118.50, so the project is financially viable.

Arguments against the purchase of the industrial massage chairs might include:

- Difficulties in projecting accurate figures for five years.
- Potential bias in the use of a low discount factor (4%) to make the NPV figures look artificially or unrealistically higher.
- No qualitative information is provided on the investment project, e.g. how reputable is the supplier of the massage chairs?

Award 1 to 2 marks for an answer that shows some understanding of the question.

33 a \$1500 adverse

b \$500 favourable

c \$1200 adverse

Award 1 mark for each correct answer, up to the maximum of 3 marks.

34 a Possible answers might include: to monitor costs and revenue for better financial control; to allocate resources appropriately; or to allow for some degree of delegation of power.

Award 1 mark for an answer with limited understanding.

Award 2 marks for a well-explained answer that shows good understanding.

b Missing figures:

Variable	Budgeted (\$)	Actual Outcome (\$)	Variance (\$)
Wages	4000	4400	400 adverse
Salaries	6500	6500	0
Stock	1700	1800	100 adverse
Revenue	16 550	16 890	340 favourable
Direct costs	3600	3450	150 favourable

Award 1 mark for each correct answer, up to the maximum of 4 marks.

c It is important to understand *why* favourable variances have occurred, e.g. what caused the favourable variances in sales revenues and direct production costs? This enables managers to have improved budgetary control in the future.

Award 1 mark for an answer with limited understanding.

Award 2 marks for a well-explained answer that shows good understanding.

Unit 4 Marketing

- 1 Market share = $16.4\% \times \$14\,000\,000 = \$2\,296\,000$

Award 1 mark for the correct answer and 1 mark for the correct working out.

- 2 The three-year moving averages for Alexis Corp.:

	Year 1	Year 2	Year 3	Year 4	Year 5
Sales (\$)	200 000	250 000	240 000	260 000	235 000
Three-year moving average		230 000	250 000	245 000	

- The three-year moving averages are calculated by finding the mean of the sales figures for each three-year block.
- Hence, the three-year moving averages are \$230 000, \$250 000 and \$245 000

Award 1–2 marks for an answer that shows some understanding, although there are some inaccuracies in the answer or working out.

Award 3–4 marks for an accurate answer that shows the correct working out.

Award up to 3 marks for one error shown in the calculations.

- 3 ■ 75% of 80 for the sample = 60 full-time people
 ■ 25% of 80 = 20 part-time people needed for the sample

Award 1 mark for the correct answers and 1 mark for showing the appropriate working out.

- 4 Thornton & Greg Co. adds 40% on top of its costs of production to ensure each unit earns a mark-up (contributing towards profit). Hence, the selling price is:

$$\$5 \times 1.4 = \$7$$

Award 1 mark for the working out and 1 mark for the correct answer.

- 5 $\$1.98 = \$1.2x$

$$x = \$1.98 \div \$1.2 = 65\%$$

or

$$[(\$1.98 - \$1.2) \div \$1.2] \times 100 = 65\%$$

Award 1 mark for the working out and 1 mark for the correct answer.

- 6 a Due to the huge production costs, aircraft are generally made to order. The most appropriate channel of distribution would be direct selling from the manufacturer (such as Boeing or Airbus) to the customer (such as Emirates Airlines or British Airways). After the customer pays a deposit, the aircraft is made to order and distributed directly to the customer.
- b The world's largest retailer of music, Apple's iTunes, is digital. Customers are increasingly buying their music online from the likes of Spotify and Moov. Music albums are widely available for instant download using mobile devices. Customers may still be able to purchase music albums from physical retail outlets such as HMV or CD Warehouse.
- c Appropriate channels of distribution include purchasing the tickets at the cinema service counter or online using the cinema's website. The latter method provides customers with added convenience although credit payment for the tickets usually includes a surcharge (administration or transaction fee).

For each answer, award 1–2 marks for an answer that outlines an appropriate channel of distribution, although the explanation is incomplete or lacks detail.

Award up to 3 marks for a well explained answer, written in the context of the product in question.

Unit 5 Operations management

1 a batch production

Award 1 mark for identifying batch production as the correct method of production.

b Benefits could include:

- Gaining some economies of scale
- Standardized output with some variety (of clothing items) for a mass market
- Flexibility in producing clothes of different sizes and colours (variety/choice)

Award 1 mark for each benefit identified and 1 further mark for the explanation.

Award up to 4 marks in total.

2 A JIC stock control system relies on the use of traditional stock control management and buffer stocks.

By contrast, a JIT system is a core feature of lean production that eliminates the need to hold any inventory. Instead, stocks are delivered and used as and when they are needed during the production process.

Award 1–2 marks for an answer that shows a limited understanding of the difference between JIT and JIC. The answer lacks depth of explanation.

Award 3–4 marks for a clear answer that shows a good understanding of the difference between JIT and JIC. There is use of relevant examples and/or the explanation is detailed.

3 a 1 week

b 2000 kgs

c 4000 kgs

Award 1 mark for each correct answer.

4 a Capacity utilization rate for Meiji Milk Company is $(180\,000 \div 200\,000) \times 100 = 90\%$.

b Capacity utilization rate for BF Sausage Company $= (2800 \div 3500) \times 100 = 80\%$

For each question, award 1 mark for the correct answer and 1 mark for showing the working out accurately.

5 ■ AFC at full capacity = $\$10\,000 \div 5000 \text{ units} = \2

■ AFC at 80% of full capacity = $\$10\,000 \div 4000 = \2.50

■ Hence, average fixed costs are \$0.50 (or 25%) higher if Darho Foods operates at only 80% of its full capacity.

Award 1 mark for calculating the AFC at full capacity and 1 mark for calculating the AFC at 80% capacity.

Award 1 mark for showing the correct working out.

Award 1 mark for showing that AFC is \$0.50 (or 25%) higher if the firm operates only at 80% of its full capacity.

6 Labour productivity rate = Total output \div Total labour-hours

$$= \$500\,000 \div 1000 = \$500$$

\therefore STC generates \$500 of output per labour-hour

Award 1 mark for the correct answer and 1 mark for the correct working work.

- 7 Labour productivity rate = Total output ÷ Number of employees
= \$120 000 ÷ 25 = \$4800

∴ the average worker at WIS sells \$4800 of goods during the week.

Award 1 mark for the correct answer and 1 mark for the correct working work.

- 8 \$25 000 + \$1Q = \$1.5Q

$$\$25\,000 = \$0.5Q$$

$$50\,000 = Q$$

Therefore, the firm needs have 50 000 customers to break-even, but with only 45 000 customers, it is more cost-effective to buy the goods as demand is less than 50 000 units (but to make the goods if demand were to exceed 50 000 units).

Award up to 2 marks for an answer that calculates the break-even quantity, with the correct working out shown.

Award up to 1 further mark for the commentary (as there is insufficient demand, the firm cannot afford to make the product itself so is better off buying from a supplier).

- 9 a Stakeholder groups include: Toyota (manufacturer), Takata (supplier), and customers (the drivers).

Award 1 mark for each stakeholder group identified, up the maximum of 2 marks.

- b A product recall happens when a product is of substandard quality or defective (such as faulty airbags in a car). Product recalls can irrevocably damage the reputation of a business, e.g. Toyota cars could be perceived by the public to be unsafe (even though the airbags were outsourced to Takata). Financial compensation to dissatisfied retailers and consumers would also harm the profits of the business. Hence, product recalls of this magnitude are an example of a crisis for businesses.

Award 1–2 marks for an answer that shows some understanding of why product recalls can cause a crisis for a business.

Award 3 marks for a clear answer that explains how product recalls can cause a crisis situation for a business. There is likely to be good application of the stimulus material.

- c Crisis management and contingency planning can help businesses to be better prepared to deal with unforeseen emergencies and incidents such as the need to recall dangerous or substandard quality products. For example, Toyota's speedy response to reassure customers improves its chances of surviving such as crisis.

Secondly, multinational companies are more vulnerable to media exposure and pressure groups especially with the spread of social media and social networks. Again, effective crisis management and contingency planning help to minimize the damage caused by such negative publicity and to ensure its global operations remain intact.

Award 1–2 marks for an answer that shows some understanding of the importance of contingency planning and crisis management. There is likely to be limited, if any, application of the stimulus material.

Award 3–4 marks for an answer that demonstrates a good level of understanding of the importance of contingency planning and crisis management. There is clear evidence of contextualized understanding.